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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/904,091

07/12/2001

Xin Simon Luo

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11/28/2003

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EXAMINER

SOHN, SEUNG C

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/904,091

Applicant(s)

LUO, XIN SIMON

Examiner

Seung C. Sohn

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 25-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 19-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Election/Restrictions*

1. **Claims 25-33 are withdrawn** from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse on August 22, 2003.

### *Drawings*

2. **Figs. 4 and 11** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

3. The disclosure is objected to because of the following informalities:  
On page 3, lines 19-25, the paragraph should be removed because it is exactly same as the paragraph on page 3, lines 13-18. Appropriate correction is required.

### *Double Patenting*

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or

discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. ***Claims 1-3 are provisionally rejected under 35 U.S.C. 101*** as claiming the same invention as that of claims 1-3 of copending Application No. **10/162,480**. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

#### ***Claim Objections***

6. **Claim 8** is objected to because "said printed circuit board" in line 1 lacks antecedent basis. Appropriate correction is required.

7. **Claim 19** is objected to because "said received optical signal" in line 4, "said predetermined data rate" in line 7, and "said diameter active area" in line 9 lack antecedent bases. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. ***Claims 1-4, 10-13 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ade et al. (Patent No. US 5,391,869).***

Referring to claims 1 and 18, Ade et al. shows in Figs. 1 & 2 a photodetector (16, i.e., detector layer), adapted to receive an incoming optical signal from a fiber (10, i.e., waveguide) having a distal end with a slanted end face (40), wherein at least a portion (36, i.e., upper cladding) of fiber cladding material on an exiting light side of the slanted end face has reduced thickness (from 7.0  $\mu\text{m}$  to 1.5  $\mu\text{m}$ ) to allow said photodetector to be closely coupled to the slanted end face (Col. 4, lines 45-53 and Col. 4, line 65 – Col. 5, line 13).

Referring to claim 2, Ade et al. discloses that angle (42) of said slanted end face is in a range of about 45-55 degrees (Col. 7, lines 10-26).

Referring to claim 3, Ade et al. discloses that the reduced thickness portion of the cladding material on exiting light side of the slanted end face is 1.5  $\mu\text{m}$  (Col. 5, lines 16-20).

Referring to claim 4, Ade et al. shows in Figs. 7 & 8 that said photodetector is a p-i-n photodiode (Col. 11, lines 47-59).

**Referring to claim 10**, Ade et al. shows in Fig. 1 the following elements of

Applicant's claim:

a) a housing adapted to receive a distal end of a fiber (10, i.e., waveguide) having a slanted end face (40) for reflecting received light along a first optical path; and

b) a photodetector (16, i.e., detector layer) mounted in said housing so that said reflected light beam is incident on said photodetector, said photodetector having a photodetecting portion responding to said light beam incident on said photodetector;

wherein a fiber cladding material along said first optical path has reduced thickness to allow said photodetector to be closely coupled to the slanted end face.

c) adapted to receive an incoming optical signal from a fiber (10, i.e., waveguide) having a distal end with a slanted end face (40), wherein at least a portion (36, i.e., upper cladding) of fiber cladding material on an exiting light side of the slanted end face has reduced thickness (from 7.0  $\mu\text{m}$  to 1.5  $\mu\text{m}$ ) to allow said photodetector to be closely coupled to the slanted end face (Col. 4, lines 45-53 and Col. 4, line 65 – Col. 5, line 13).

**Referring to claim 11**, Ade et al. discloses that angle (42) of said slanted end face is in a range of about 45-55 degrees (Col. 7, lines 10-26).

**Referring to claim 12**, Ade et al. discloses that said second thickness is 1.5  $\mu\text{m}$  (Col. 5, lines 16-20).

Referring to claim 13, Ade et al. shows in Figs. 7 & 8 that said photodetector is a p-i-n photodiode (Col. 11, lines 47-59).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. ***Claims 5-7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ade et al. (Patent No. US 5,391,869) in view of Visocchi (Patent No. US 5,311,005).***

Referring to claims 5-7 and 14-16, Ade et al. discloses the claimed invention as set forth above, but is silent that said optoelectronic device comprises a transimpedance amplifier coupled to output of said photodetector for converting photodetector output current signal to an output voltage signal as claimed. Visocchi shows in Fig. 1 a transimpedance amplifier (14) coupled to output of said photodetector (12) for converting photodetector output current signal ( $I_{ph}$ ) to an output voltage signal ( $V_1$ ) (Col. 2, lines 24-27). It would have been obvious to a person having ordinary skill in the art to provide the transimpedance amplifier of Visocchi in the device of Ade et al. for the purpose of converting a current signal to a voltage signal.

12. ***Claims 8-9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ade et al. (Patent No. US 5,391,869) in view of Visocchi (Patent No. US 5,311,005) and Zhou (Patent No. US 6,081,638).***

Referring to claims 8-9 and 17, the modified device of Ade et al. discloses the claimed invention as set forth above, but is silent that the printed circuit board is mounted in a hermetically sealed housing. Zhou discloses that said housing comprises a hermetically sealed housing (Col. 4, lines 28-31). It would have been obvious to a person having ordinary skill in the art to provide a hermetically sealed housing of Zhou in the modified device of Ade et al. for the purpose of tight sealing.

#### ***Allowable Subject Matter***

13. **Claims 19-24 are allowed.**

14. The following is a statement of reasons for the indication of allowable subject matter: claims 19-24 are allowable because the prior art fails to disclose or make obvious, either singly or in combination, a method of manufacturing a fiber to photodetector interface comprising, in addition to the other recited features of the claim, "removing at least a portion of fiber cladding material in reflected optical path in accordance with said separation distance".

#### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



Art Unit: 2878

**Sabine (Patent No. US 4,381,882)** discloses fiber optic termination.

**Jeskey (Patent No. US 4,693,552)** discloses an optical apparatus consisting of optical fibers.

**Artjushenko et al. (Patent No. US 5,734,765)** discloses terminations for an infrared transmitting optical fiber.

**Zhou (Patent No. US 6,205,274)** discloses a fiber optic header for an edge emitting laser.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (703) 308-4093. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

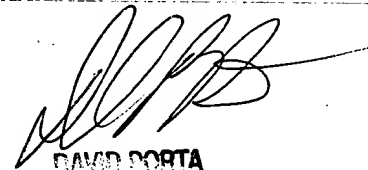
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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November 17, 2003



DAVID PORTA  
SUPERVISORY OFFICE EXAMINER  
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